REMARKS

The Examiner is respectfully requested to enter the foregoing amendment prior to examination and calculation of the filing fees in the above-identified patent application.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

Respectfully submitted,
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APPENDIX

(including marked-up paragraphs from the specification)

Replace the paragraph on page 1 between lines 3 and 6 with the following paragraph and subheading:

--- The invention relates to a machine for producing a multi-layered fibrous web, in particular a paper or cardboard web, in which the layers created by each former are couched together, i.e., connected. It further concerns a process [according to the preamble of claim 26.] for the production of a multi-layered fibrous web, in particular a paper web or a cardboard web, in which the layers each created by a former are couched together, characterized in that at least two layers to be couched together, each having on one side a higher content of fines, are introduced into the couching zone in such a way that they come into contact with each other on their sides with higher content of fines and that at least one of these two layers is created by a gap former.

2. Discussion of Background of the Information ---

Replace the paragraph on page 1 between lines 12 and 18 with the following paragraph:

--- Different types of formers are known. For instance, in a fourdrinier former, the dewatering occurs at the wire side. A concentration of fines (otherwise referred to as fine particles or fine substances) at the upper side is achieved with power pulses. In a hybrid former, the main dewatering occurs at the wire side. In the zone of the upper wire, the dewatering occurs at the top which results

in a reduction of the content of fines at the top. In a so-called roll blade gap former the dewatering occurs first at the top and then at the bottom, which results in a higher content of fines at the bottom. ---

Replace the following paragraphs on page 2 between lines 4 and 12 with the following paragraphs:

--- It is the [object] aspect of the invention to create an improved process as well as an improved device of the above mentioned kind in which better layer adhesion is ensured in an economical and reliable fashion.

This [object] aspect is obtained concerning the paper machine in that at least two layers, which are to be couched together and each have on one side a higher content of fines, are guided to the applicable couching zones in such a way that the sides having the higher content of fines come into contact with each other and in that at least one of the two layers was created by a gap former. ---

Replace the paragraphs on pages 5-6 between lines 28 and 29 (page 5) and lines 1-2 (page 29) with the following paragraphs and heading:

--- [Advantageous embodiments of the process according to the invention are listed in the subclaims.] According to an aspect of the present invention, a machine for the production of a multi-layered fibrous web is provided including at least two formers for forming at least two layers in

which each layer has a higher content of fines on one side respectively; and a couching zone in which the at least two layers are couched together such that each layer's side having a higher content of fines contact each other; wherein at least one of the at least two formers comprises at least one gap former.

According to another aspect of the present invention the fibrous web includes one of a paper web and cardboard web. In yet another aspect of the invention, the at least one gap former includes two circulating continuous dewatering belts convergingly arranged to form a headbox nip, and in which the dewatering belts are guided in an area of the headbox nip over a forming element.

Additionally, other aspects of the present invention include a headbox arranged to supply a fibrous suspension to the headbox nip. In another aspect of the present invention, the forming element includes a forming roll. According to a further aspect of the present invention, the at least one gap former includes a first gap former and a second gap former arranged to form at least two layers, wherein the higher content of fines side of the at least two layers occurs on a forming element side.

In another aspect of the present invention, the web travel directions of the first and second gap formers are opposite each other. According to still further aspects of the present invention, a first layer created in the first gap former is guided together with at least one of the two dewatering belts around a deflection element, and then introduced via a continuous belt, traveling in a generally opposite direction to a stream direction of the headbox, into the couching zone in which the first layer and a second layer formed by the second gap former are couched together so that their sides having a higher content of fines come into contact with each other.

Further aspects of the invention include a deflection element includes a deflection roll.

According to other aspects of the present invention, the first layer is guided around the deflection element together with an outer dewatering belt of the two dewatering belts, which does not come into contact with the forming element, and which is introduced into the couching zone via the outer dewatering belt.

According to another aspect of the present invention, the two dewatering belts are guided around the deflection element, and an inner dewatering belt of the two dewatering belts is separated from the outer dewatering belt which entrains the first layer following the deflection element. According to a further aspect of the present invention the outer dewatering belt of the first gap former is guided in a generally horizontal direction, at least up to the couching zone.

In yet another aspect of the invention, the machine further includes a fourdrinier former, wherein a third layer is created by the fourdrinier former and sheet formation of the third layer occurs with the higher content of fines on an outer side of the third layer facing away from the continuous belt; wherein the first layer is guided over the deflection element and is couched together with the third layer; and wherein the first layer and third layer are introduced via the continuous belt into the couching zone in which the first layer and second layers, are couched together so that their sides having higher content of fines come into contact with each other.

According to another aspect of the present invention, the outer dewatering belt of the first gap former is separated in web travel direction in front of the deflection element from an inner dewatering belt and the first layer is guided around the deflection element only together with the inner dewatering belt. Additionally, other aspects of the present invention disclose the third layer and the first layer being couched together in the area of at least one of the deflection element and in a couching roll.

In yet another aspect of the present invention, after separation of the two dewatering belts of the second gap former, the second layer is introduced together with the outer dewatering belt into the couching zone in which the first and second layers are couched together so that their sides having a higher content of fines come into contact with each other.

According to still another aspect, a first layer of the at least two layers to be couched together, is created by a fourdrinier former and sheet formation of the first layer occurs with the higher content of fines on an outer side facing away from a continuous wire, and wherein a second layer is created by the at least one gap former and sheet formation occurs in the second layer with a higher content of fines on the forming element side.

According to a further aspect of the present invention, a stream direction of a headbox associated with the first gap former correlates in general with the travel direction of the first layer created by the fourdrinier former. In another aspect of the present invention, the second layer created by the at least one gap former is introduced, after a separation of the two dewatering belts of the at least one gap former, together with the outer dewatering belt into the couching zone in which the second layer is joined with the continuous belt for the first and second layers to be couched together.

According to still a further aspect of the present invention, the continuous wire is guided in the couching zone in a generally horizontal direction. Further aspects of the present invention include a second gap former arranged to form a third layer, wherein sheet formation of the third layer occurs with a higher content of fines on a forming element side, and wherein the third layer is couched together with the second layer in a second couching zone.

According to other aspects of the present invention, the stream direction of a headbox associated with the second gap former corresponds to the travel direction of the first layer created

by the fourdrinier former. According to another aspect of the present invention, the third layer is introduced after separation of the two dewatering belts of the second gap former together with the outer dewatering belt into the second couching zone, wherein the second layer is brought together with the continuous belt for couching together the second and third layers formed by the first and second gap formers.

According to a further aspect of the present invention, the continuous wire is guided at least in the area of the couching zones in a generally horizontal direction. According to another aspect of the invention, the machine further includes at least one additional gap former arranged for the formation of an at least three-layered fibrous web, wherein sheet formation of the additional layer occurs with a higher content of fines on the forming element side, wherein the additional layer is couched in an additional couching zone with one of the at least two layers formed by the first or second gap former, and where at least one of the at least two layers is couched together with the additional layer so that their sides having higher content of fines come into contact with each other.

Additionally, other aspects of the present invention disclose the stream direction of the headbox associated with the at least one additional gap former corresponding to the travel direction of the fibrous web to be created. In yet another aspect of the invention, at least one of a multi-layered headbox and a single layered headbox is provided. According to a further aspect of the present invention, at least one single layered headbox is provided. In another aspect of the present invention, uniform pressure dewatering elements for web dewatering is provided.

According to an aspect of the present invention, a process for the production of a multi-layered fibrous web, including forming at least two layers via at least two formers, such that each layer has a side with a higher fines content; couching together the at least two layers in a couching

zone so that the sides with higher fines content contact each other; wherein at least one of the at least two layers is formed by at least one gap former.

According to another aspect of the invention, wherein the two dewatering belts are guided around the deflection element and the an dewatering belt is separated from the outer dewatering belt entraining the layer consecutive to the deflection element.

[The invention shall be described in detail below using exemplary embodiments with reference to the drawings, which show:]

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention is further described in the detailed description which follows, in reference to the noted plurality of drawings by way of non-limiting examples of exemplary embodiments of the present invention, in which like reference numerals represent similar parts throughout the several views of the drawings, and wherein: ---